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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/643,826

08/18/2003

Marco Wirasinghe

42P15529

7008

8791

7590

07/06/2007

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EXAMINER

MCLEAN MAYO, KIMBERLY N

ART UNIT

PAPER NUMBER

2187

MAIL DATE

DELIVERY MODE

07/06/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/643,826

Applicant(s)

STANLEY, RANDY P.

Examiner

Kimberly N. McLean-Mayo

Art Unit

2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4,20,21,23,24,30,33,34 and 36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,20,21,23,24,30,33,34 and 36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. The enclosed detailed action is in response to the Amendment submitted on April 5, 2007.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 20-21, 23-24, 30, 33-34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nicholson et al. (PGPUB: US 2004/0153694) in view of Lee et al. (USPN: 5,809,223).

Regarding claims 1-2, 20-21, 23, 30 and 33, Nicholson discloses requesting an operating system to place a mobile computer system a mobile computer system (section [0028]; a mobile computer system is a computer system used in a mobile environment) in a hibernation mode (refer to Figure 7, the system determines whether it is entering hibernation, this determination is intrinsically in response to a stimuli of some sort requesting that the system enters hibernation, furthermore, since the operating system controls the allocation and usage of hardware resources, it is evident that the operating system receives such stimuli/request); gathering a state of the computer system, wherein the state includes contents of a central processing unit of the computer system and contents of a main memory of the computer system (Figure 7, Reference 710; section [0052], lines 1-6; the system saves all information required to restore the system, since the

central processing unit performs all of the processing for the system [section [0039], it is evident that the state of the cpu or contents of the cpu are required for storage when the system hibernates in order to ensure that the processing unit may resume processing; section [0052], lines 1-12; the RAM stores data/programs presently operated on and thus this information would be used prior to hibernation and thus would be stored in the non-volatile memory, also refer to section [0028]); storing the system state to a first non-volatile memory cache of the computer system (Figure 7, Reference 712), wherein discloses the first non-volatile memory has a storage capacity between 50-2000 megabytes (section [0042]), and storing the system state to a hard disk drive of the computer system, which is coupled with the first non-volatile memory cache via a transparent write-through process (Figure 7, Reference 714; data written to the hard disk drive is written in the hard disk drive's cache also and thus the write-through process is transparent to the computer connected to the network, in that the computer writes the data to the remote boot server); putting the mobile computer system into the hibernation mode including putting the hard disk drive into the hibernation mode and waking the computer system from the hibernation mode including loading the state from the non-volatile memory cache instead of from the hard disk drive (section 0054). Nicholson does not explicitly disclose the second non-volatile memory internal to the computer system. However, Lee teaches the concept of storing the state of the computer system to a first and second memory internal to the computer system when the system is placed in hibernation mode (C 7, L 48-53). This feature provides improved performance by storing the data locally, which reduces delays associated with non-local data transfers. Hence, one of ordinary skill in the art would have been motivated to modify Nicholson's teachings to provide the second memory internal to the computer system for the desirable purpose of

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improved performance. Additionally, regarding claim 30, Nicholson does not disclose the first non-volatile memory having the same address configuration as the second non-volatile memory (hard disk drive). This concept is well known with cache memory and main memory applications, wherein the cache and main memory having a same address configuration. This feature allows data to be written to the cache and the main memory during a write through process, which ensures that the main memory will always be synchronized with the cache in the event of failures. Nicholson discloses the use of the first and second memory to improve reliability in the event of errors or failures and thus it would have been obvious to one of ordinary skill in the art to incorporate this well known concept in the system taught by Nicholson for the desirable purpose of improved reliability.

Regarding claim 3, Nicholson wherein the hard disk drive has a greater storage capacity than the first non-volatile memory cache (section [0004]; the remote boot server contains a hard disk drive and the smallest size of such a drive is 30 GB).

Regarding claim 4, the first non-volatile memory cache is logically coupled to the hard disk drive (section [0038], 2<sup>nd</sup> column, lines 9+, the second non-volatile memory is coupled to the first via References 171, 170, 121, and 222 in Figure 1).

Regarding claim 24, Nicholson discloses a driver coupled to the main memory and the first non-volatile memory, wherein the driver writes data of the main memory to the first non-volatile memory (storage driver stack; section [0041], lines 23+; Figure 6, sections [0045] – [0046]).

Regarding claims 34 and 36, Nicholson does not disclose the second non-volatile memory having the same address configuration as the first non-volatile memory. This concept is well known in the art with cache memory and main memory applications, wherein the cache and main memory having a same address configuration. This feature allows data to be written to the cache and the main memory during a write through process, which ensures that the main memory will always be synchronized with the cache in the event of failures. Nicholson discloses the use of the first and second memory to improve reliability in the event of errors or failures and thus it would have been obvious to one of ordinary skill in the art to incorporate this well known concept in the system taught by Nicholson for the desirable purpose of improved reliability.

#### *Response to Arguments*

4. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

#### *Conclusion*

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly N. McLean-Mayo whose telephone number is 571-272-4194. The examiner can normally be reached on Monday-Friday (10-6:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on 571-272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kimberly N. McLean-Mayo  
Primary Examiner  
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KNM

June 24, 2007

*Handwritten signature: Kimberly M. Leon*  
*Handwritten text: memory of examiner 2187*